

IN THE CLAIMS

1. - 6. (Canceled)

7. (Previously Presented) An integrated circuit package, comprising

a die;

a heat sink, wherein both an upper surface of the die and a lower surface of the heat sink have metal coatings of gold; and

a first thermal intermediate portion comprising a plurality of carbon nanotubes, some nanotubes of which have organic moieties attached to one end thereof, the one end of some nanotubes chemically bonded to the heat sink; and

a second thermal intermediate portion comprising a plurality of carbon nanotubes, some nanotubes of which have organic moieties attached to one end thereof, the one end of some nanotubes chemically bonded to the die.

8. (Previously Presented) The package of claim 7, wherein the organic moieties of the first thermal intermediate portion and the organic moieties of the second thermal intermediate portion include amide linkers.

9. (Previously Presented) The package of claim 7, wherein the organic moieties of the first intermediate portion and the organic moieties of the second intermediate portion include thiol linkers.

10. (Original) The package of claim 7, wherein the organic moieties of the first intermediate portion and the organic moieties of the second intermediate portion include thiol linkers and amide linkers.

11. (Previously Presented) The package of claim 10, wherein the carbon nanotubes of the thermal intermediate portions are generally perpendicular to the upper surface of the die or the lower surface of the heat sink.

12-16. (Canceled)

17. (Previously Presented) A computing system, comprising:

at least one dynamic random access memory device;

a die having a circuit thereon to couple to the memory device;

a heat sink, wherein both an upper surface of the die and a lower surface of the heat sink have metal coatings of gold;

a first thermal intermediate portion comprising a plurality of carbon nanotubes, some nanotubes of which have organic moieties attached to one end thereof, the one end of some nanotubes chemically bonded to the heat sink; and

a second thermal intermediate portion comprising a plurality of carbon nanotubes, some nanotubes of which have organic moieties attached to one end thereof, the one end of some nanotubes chemically bonded to the die.

18. (Previously Presented) The system of claim 17, wherein the circuit comprises a processor that acts upon data signals.

19. (Original) The system of claim 17, wherein the organic moieties comprise amide linkers.

20. (Original) The system of claim 17 wherein the organic moieties comprise thiol linkers.

21. (Original) The system of claim 17, wherein the organic moieties comprise amide linkers and thiol linkers.

22. (Previously Presented) A process:

coating at least one surface of least one of a heat sink and of a die with a metal;

oxidizing carbon nanotubes ropes in sulfuric and nitric acids, whereby the carbon nanotubes ropes are cut into a plurality of short carbon nanotubes with open ends having carboxyl linkages attached thereto;

treating at least one end of at least some of a plurality of carbon nanotubes by applying organic moieties thereto; and

tethering one end of the at least some of the carbon nanotubes of the plurality of carbon nanotubes to the metal.

23. (Original) The process of claim 22 wherein the metal is selected from the group consisting of gold and gold alloys.

24. (Original) The process of claim 23, wherein the treating the at least one end of some of the plurality of nanotubes comprises forming an amide based linkage thereon.

25. (Original) The process of claim 23, wherein the treating the at least one end of some of the plurality of nanotubes comprises forming an amide based linkage and a thiol based linkage thereon.

26. - 30. (Canceled)